	UNIVERSITAS SRIWIJAYA **FACULTY OF AGRICULTURE** **AGRIBUSINNES STUDY PROGRAMS**					
MID TERM EXAMINATION						
MODULE	Econometrics					
CODE	ABI 205217	**CREDIT**	3 (2-1)	**SEMESTER**	4	
LIST OF LECTURER	Ir. Mirza Antoni, M.Si., Ph.D. Dr. Dessy Adriani, S.P., M.Si.					
EXAM DESIGN		**DURATION TIME**				
CASE BASED ESSAY		100 MINUTE				

INTENDED LEARNING OUTCOME

1. Attitudes and Values
LO-AV 8: Able to internalize the entrepreneurial spirit

2. Science Competencies
LO-SC 2: Able to understand knowledge and technology in the field of agribusiness including the development of professional practices through research studies to produce innovative work in the field of agribusiness that is tested using econometric analysis tools
LO-SC 3: Able to understand the fields of economics, management, business, entrepreneurship, institutional, sociology, counseling and communication, as well as agricultural sciences for the development of sustainable agribusiness operating systems based on the results of econometric analysis.
LO-SC 4: Able to understand operationally the social, economic and technological principles that underlie the management of agricultural businesses and agricultural industries and socio-cultural aspects in the countryside for decision making and problem solving in the field of agribusiness based on econometric analysis.
LO-SC 5: Able to manage research and development in the field of agribusiness that is beneficial to society and science and able to get national and international recognition using econometric analysis tools
3. Occupational Skills
3.1. General Skills
LO-OS 3 : Able to make the right decisions using quantitative and qualitative methods, and able to recommend alternative solutions individually and in groups on various agribusiness problems based on the results of econometric model analysis.
LO-OS 4 : Able to apply and utilize science and technology in solving problems in the field of agribusiness that is adaptive to environmental changes through the results of simulated econometric models
3.2. Specific Skills
LO-OS 6 : Able to use econometric methods to formulate strategies for the use of resources to increase the capacity of themselves and society in facing the challenges of agribusiness development in the future.
LO-OS 8 : Able to motivate and empower the community in the field of quantitative agribusiness business development to improve community welfare
LO-OS 10 : Able to integrate econometric concepts and practices in the field of agribusiness and

entrepreneurship LO-OS 11 : Able to manage and develop agribusiness businesses by implementing a management system that ensures quality output based on quantitative and qualitative principles

COURSE LEARNING OUTCOME

CLO 1: Mahasiswa mampu **memahami** pengertian atas teori-teori dasar ekonometrika dan perhitungan statistika dan matematika untuk menganalisis masalah atau fenomena ekonomi
CLO 2: Mahasiswa mampu **menganalisis** dengan kerangka konseptual dan teoretikal dari ekonometrika yang akan dapat diaplikasikan secara luas untuk menguji hipotesis dan meramalkan kecenderungan masa depan,.
CLO 3: Mahasiswa mampu **menerapkan** aplikasi dari teori-teori ekonometrika, khususnya ekonometrika, dalam menganalisa menggunakan teknik-teknik analisis pada satu atau multi persamaan linier, analisis gugus data satu waktu tertentu (crosssection) dan data runtut waktu (*time series*), penggunaan i*ndependent* dan *dependent variable*, serta estimasi model linier dan non linier
CLO 4: Mahasiswa mampu menggunakan alat analisis ekonometrika untuk **mengambil keputusan** yang tepat untuk menyelesaikan masalah agribisnis dan mengembangkan usaha agribisnis

DISKRIPSI SOAL UJIAN

This exam is carried out to test students' ability to understand and apply econometric theory and calculations to analyze economic problems or phenomena using analytical techniques on simple and multiple linear equations, linear and non-linear equations, cross-sectional data analysis and coherent data. time (time series) to test hypotheses and predict future trends, use of dependent and independent variables, model formulation and estimation.

EXAM INSTRUCTION

1. Students are asked to answer the following questions.
2. Relate the answer to the theory that has been learned during the lecture.
3. The exam will be held on March 9, 2022, starting at 10.00 and ending at 11.40 WIB.
4. Time to answer questions for 150 minutes.
5. The time for collecting answers in e-learning is 30 minutes.
6. Answers are handwritten
7. Answer Softfile uploaded to e-learning.
8. Hardcopies of answer sheets are submitted to the department.

QUESTIONS

1. LO AV 8, SC 2, 3; CLO 1. Learning Outcomes of STN 8; KIP 2,3; CPMK 1 and CPMK 2. Explain the 3 criteria that must be met for a good econometric estimation result? What is a BLUE estimator? (20 Points)
2. LO AV 8, SC 3, 4; CLO 2, 3. Known: In studying the effect of a number of qualitative characteristics on the prices charged for admission to cinemas in a large metropolitan area for the period 2001-2010, a researcher conducted a study, with the following estimation results:
   Y= 4.13+5.77D1 + 8.21D2 – 7.68 D3 – 1.13 D4 + 27.09 D5
   Where:
   D1 = Cinema location; 1= outskirts of town and 0= center of town
   D2 = age of cinema; 1= less than 10 years and 0= more than 10 years
   D3 = type of cinema; 1 = open and 0 = closed
   D4 = parking lot; 1 = provided and 0 = not
   D5 = movie playback ; 1 = first and 0 others
   Y = entrance ticket price (Twenty Thousand Rupiah)
   Calculate:
   a. Ticket price, if the cinema is far outside the city, the age of the cinema is less than ten years, the cinema is open, and there is no parking space, and the first film screening
   b. Ticket price, if the cinema is in the city center, the age of the cinema is over ten years, the cinema is closed, parking is provided, and the first film screening (20 Points)

3. LO AV 8, SC 3, 4; CLO 2,3. It is known: It is suspected that the level of soybean production is influenced by land area, land productivity, use of fertilizers, pesticides, number of workers and seeds, corn prices and soybean prices.

Requested:

a. Formulate a good form of the production function mathematical equation (consider using one of the linear or non-linear equations? Why did you choose the form of the equation?

b. Write down the possible signs of the estimating regression coefficient for each independent variable observed in this study. (20 Points)

4. LO AV 8, SC 4, 5; CLO 4.It is known: The results of data processing using the logit model are shown by the following model, where Pi is the percentage of opportunities for housewives to work in the non-agricultural sector; 1−Pi is the percentage chance of housewives working in agriculture. X1 is the average monthly wage in the non-agricultural sector (Rp/month); X2 is the level of family income per month (Rp/Month); X3 is the number of family members who are the responsibility of the family (persons); X4 is the respondent's education level (years); X5 is the area of agricultural land controlled (hectare).

Hasil Analisis Model *Logit*

Variabel	β	Signifikansi
Constanta (C)	8,392	0,020
Upah di sektor Non Pertanian (X_1)	0,101	0,047
Pendapatan Keluarga (X_2)	-0,001	0,029
Jumlah tanggungan keluarga (X_3)	0,159	0,039
Tingkat pendidikan (X_4)	0,221	0,042
Luas lahan (X_5)	-0,251	0,046
Goodness of fit test = 4,162 signifikan pada 0,4130		
-2 log *likelihood* untuk *Block Number* = 0 42,463		
-2 log *likelihood* untuk *Block Number* = 1 22,787		

β adalah koefisien regresi dan dengan taraf kepercayaan 95%

Requested:

Calculate the Odds Ratio value for each independent variable in the equation and explain what it means? (20 Points)

5. LO AV 8, SC 4, 5; CLO 4. Consider the following multiple regression equation estimation results.

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Model: MODEL1
Dependent Variable: Y

                         Analysis of Variance

                               Sum of          Mean
           Source        DF    Squares        Square      F Value       Prob>F

           Model         10    0.98536        0.09854       1.355        0.0358
           Error         18    1.30891        0.07272
           C Total       28    2.29427
               Root MSE     0.26966     R-square       0.9295
               Dep Mean     3.69897     Adj R-sq       0.1125
               C.V.         7.29018

                            Parameter Estimates

                        Parameter       Standard    T for H0:
         Variable  DF    Estimate          Error  Parameter=0     Prob > |T|
         INTERCEP   1    4.261765     0.42639300        9.995         0.0001
         L          1   -0.013733     0.04925293       -0.279         0.7836
         PU         1   -0.002937     0.00172012       -1.708         0.1049
         P          1    0.042042     0.03528338        1.192         0.0489
         TK         1   -0.000372     0.00016917       -2.200         0.0411
         B          1   -0.001934     0.00178553       -1.083         0.0930
         D1         1   -0.045719     0.12055658       -0.379         0.7090
         D2         1    0.014389     0.14379916        0.100         0.0214

                     Durbin-Watson D              1.732
                     (For Number of Obs.)            29
                     1st Order Autocorrelation    0.123
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Y= is the productivity of lowland rice (tons/ha)
L = is the area of Lebak rice land (ha)
PU = is the amount of urea fertilizer (kg/ha)
P = pesticides or drugs to eradicate pests and plant diseases (ltr/ha)
TK = labor used (HOK)
B = number of seeds (kg/ha)
D1 = dummy for Lebak rice variety 1 = superior variety 0 = local variety
D2 = dummy for KK main work 1 = rice 0 = non rice

Requested:

1. Arrange the estimation results for the regression equation based on the output results above?
2. What is the meaning of each estimating regression coefficient obtained in the above equation?
3. If the test is carried out at = 0.05 (5%) , what is the result of the F-Test?
4. If the test is carried out at = 0.05 (5%) , what variables have a significant partial effect based on the results of the t-test?
5. What is the coefficient of determination obtained and what does it mean? (20 Point)

BOBOT PENILAIAN

SOAL 1. Bobot Nilai 30
SOAL 2. Bobot Nilai 10
SOAL 3. Bobot Nilai 20
SOAL 4. Bobot Nilai 20
SOAL 5. Bobot Nilai 20

JADWAL PELAKSANAAN

9 Maret 2022

LAIN-LAIN

1. Bobot penilaian Ujian Tengah Semester adalah 35% dari dari 100% penilaian mata kuliah ini
2. Tugas dikerjakan dan dipresentasikan secara mandiri

DAFTAR RUJUKAN

1. Gujarati, Damodar. 2007, *Basic Econometric*, Second Edition, McGraw-Hill Book Company, Forth Edition, New York.
2. Kautsoyiannis. 1977. Theory of Econometries: An Introductory Exposition of Econometries Methods. Second Edition. Harper & Row Publishers Inc. Inggris.
3. Agus Widarjono. 2007. Ekonometrika: Teori dan Aplikasi. Penerbit Ekonesia. Yogyakarta.
4. Handout